PATENT COOPERATION TREATY

PCT

Translation INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference							
P27515/WO Kf	FOR FURTHER ACTION	See Form PCT/	IPEA/416				
International application No.	International filing date (day/r	nonth/year) Priority date (da	ay/month/year)				
PCT/EP2004/002897	19.03.2004	19.03.2	2003				
International Patent Classification (IPC) Applicant BRUENINGHAUS HYDRO							
1. This report is the international	I preliminary examination report, esta		iminary Examining Authority				
2. This REPORT consists of a to	tal of 5	sheets, including this cover sheet					
3. This report is also accompanie	ed by ANNEXES, comprising:	- -					
a. (sent to the application	ant and to the International Rureau) a	total of 5	cheete as follows:				
a. (sent to the applicant and to the International Bureau) a total of sheets, as follows: sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).							
sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.							
b (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))							
related thereto, in co Section 802 of the A	omputer readable form only, as indicated dministrative Instructions).		sequence listing and/or tables ting to Sequence Listing (see				
4. This report contains indication	ns relating to the following items:						
Box No. I Basi	s of the report						
Box No. II Prio	rity						
	-establishment of opinion with regard	to novelty inventive step and indu	strial applicability				
		to novelty, inventive step and mad	Surar approaching				
Box No. V Rea							
Box No. VI Cert							
Box No. VII Cert	ain defects in the international applica	tion					
	ain observations on the international a						
Date of submission of the demand							
Date of submission of the demand	Date of	completion of this report					
Name and mailing address of the IPEA	/EP Author	ized officer					
Facsimile No.	Teleph	one No.					

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/002897

Box	No. I	Basis	s of the report				
1.	1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.						
	This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:						
		interna	ational search (Rule 12.3 and 23.1(b))				
		publica	ation of the international application (Rule 12.4)				
			ational preliminary examination (Rule 55.2 and/o				
2.	With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):						
		the internation	onal application as originally filed/furnished				
	\boxtimes	the description	on:				
		pages 1	-10		as originally filed/furnished		
		pages*		received by this Authority on			
		pages*	<u> </u>	received by this Authority on			
	\boxtimes	the claims:					
		nos.			as originally filed/furnished		
		nos.*		as amended (togethe	r with any statement) under Article 19		
		nos.* 1-2		received by this Authority on	19.01.2005 with letter		
		nos.*					
	\boxtimes	the drawings					
		J	1/6-6/6				
		sheets*			as originally filed/furnished		
		sheets*					
	[]			received by this Authority on	 		
		a sequence li	listing and/or any related table(s) – see Suppleme	ental Box Relating to Sequence L	isting.		
3.	Ш	The amenda	nents have resulted in the cancellation of:				
		the des	scription, pages				
		the cla	aims, nos.				
		the dra	awings, sheets/figs				
		the sec	quence listing (specify):				
		any tal	ble(s) related to sequence listing (specify):				
4.		This report 1	has been established as if (some of) the amendateen considered to go beyond the disclosure as file	nents annexed to this report and	listed below had not been made since		
	the description, pages						
	the claims, nos.						
	the drawings, sheets/figs						
	the sequence listing (specify):						
	any table(s) related to sequence listing (specify):						
*	If ite		some or all of those sheets may be marked "supe				

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/002897

Box No. V		Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement			
	Novelty (N)	Clair	1-16	YES
		Clair	ns 17-21	NO
	Inventive step	(IS) Clair	ns <u>1-16</u>	YES
		Clair	ns 17-21	NO
	Industrial apple	icability (IA) Clair	ns <u>1-21</u>	YES
		Clair	ns	NO

- 2. Citations and explanations (Rule 70.7)
 - 1. Reference is made to the following documents:

D1: US-A-3 643 549 (NAGATOMO KUNIYASU)

22 February 1972 (1972-02-22)

D2: DE 42 01 393 (MANFRED BAUR)

3 June 1993 (1993-06-03)

D3: US-A-5 722 298 (SCHWARZBICH JÖRG)

3 March 1998 (1998-03-03).

2. Document D1 is considered to the prior art closest to the subject matter of claim 1. Said document discloses an axial piston engine with a rotatably mounted cylinder drum that comprises a central recess and multiple cylinder bores running approximately parallel to the central recess, pistons being movably guided therein, said pistons being supported on a swashplate by means of sliding shoes which are guided in recesses of a recoil plate, a recoil member being guided in the centrally disposed inner bore of said recoil plate and having an outer surface that corresponds to the inner bore of the recoil plate, said recoil member being preloaded in an axial direction by

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

means of a tension spring via at least one pressure pin and each pressure pin comprising an enlarged planar surface area on its lower end facing the recoil member, said area being radial relative to the longitudinal axis of the pressure pins.

- 2.1 Thus, the subject matter of claim 1 differs from the known axial piston engine in that the surface enlargement is planar.
- 2.2 The subject matter of claim 1 is therefore novel (PCT Article 33(2)).
- 2.3 The problem addressed by the present invention can consequently be regarded as that of reducing the contact pressures in the contact region between the pressure pin and the recoil member.
- 2.4 The solution to the above problem, as proposed in claim 1 of the present application, involves an inventive step (PCT Article 33(3)). The reasons are as follows.
- 2.5 The solution in question has no precedent in the searched prior art and, to a person skilled in the art, is non-obvious therefrom since, in D1, contact pressures in the contact region between the pressure pin and recoil member were reduced by plastic deformation.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 3. Claims 2-16 are dependent on claim 1 and, in consequence, likewise satisfy the requirements of the PCT in respect of novelty and inventive step.
- 4. The present application fails to satisfy the requirements of PCT Article 33(1) because the subject matter of claim 17 lacks novelty (PCT Article 33(2)).
- 4.1 Document D2 discloses (see figure 2; claim 4; column 3, lines 49-56) a pressure pin (10) with a planar enlargement of the surface area (10.4) of the head of the pressure pin, a planar enlargement of the surface (10.1) also being provided on the opposing, bottom end of the pressure pin.
- 4.2 Document D3, likewise, discloses all the features of claim 17.
- 5. Dependent claims 18-21 contain no features which, combined with the features of any claim to which they refer, meet the PCT requirements for novelty and/or inventive step.